

ing into consideration the stratigraphical, lithological and paleontological relations and dicta of the rocks of this clearly distinct and well-marked terrane in the scale of geologic terranes in America, we can readily separate them from others, such as the Lorraine and Utica terranes, with which they have been for years made synchronous or newer. The fauna enclosed in the typical Lorraine shales, *i. e.*, in those shales which overlie the Utica shale and underlie the Oswego, or, as it is now called, Medina, sandstone, is well known and can be studied to advantage in Canada around the Manitoulin islands, at Collingwood, and at various points from that place to Oakville and southeastward by Weston and Toronto, in New York and in the valley of the Richelieu river, in the Ottawa Paleozoic basin and near St. Nicholas, at Côte Sauvageau, in the St. Charles river valley, at Montmorency below the falls, at Ste. Famille, and on the Island of Orleans at Ste. Anne de Beaupré, at St. Joachim, and also along the northern shore of Anticosti.

There seem to occur then two distinct faunas entombed in distinct series of strata and holding a different position as to age. The apparently lower Trenton aspect of a portion of the Quebec massif as seen at Côte d'Abraham and Côte de la Nègresse gives us an indication of the age of the strata at these points. Cut off on all sides by faults and separated from the Lévis rocks by the St. Lawrence river, the Quebec terrane (which name I beg to propose for this series of strata such as we meet at the Montcalm market, Parliament square, and drill-shed exposures) stands by itself in an anomalous position very similar to rocks of similar age which Professor Lapworth designated as "unplaced in the series."*

There is a marked physical resemblance between the Quebec massif and the Lévis rocks south of the city, but one series is a highly bitumino-calcareous terrane; the other not so. The presence of such forms as *Agnostus*, *Aeglina*, *Ampyx*, *Dionide*, *Bathyrurus*, etc., point to a rather lower horizon than the Trenton, while I believe that it is perhaps premature to give the precise geological position of the strata at Quebec, in the present light of our knowledge. Suffice it for this occasion to separate this terrane from that of the Lorraine shales or Lorraine terrane, *i. e.*, overlying the Utica, and recognize it as a distinct one, whose more exact position will form an interesting object of research. But a few days, comparatively speaking, have been spent in examining the strata at Quebec, and the limestone bands and shales interstratified are richly fossiliferous.

The Lévis.—Next in order comes the Lévis terrane, whose characters, both paleontological and stratigraphical, are given in detail in the reports of the Canadian survey and in many other interesting memoirs and publications. Along with Dr. Ells, the writer has made an examination of the fossiliferous

*This same authority had recognized the earlier age of the "Hudson River rocks" in America and their identity with the Glenkiln shales of south Scotland as their European equivalents.